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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,037	12/30/2003	Andrew S. Grover	42.P18168	9197

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EXAMINER	
LI, ZHUO H	

ART UNIT	PAPER NUMBER
2185	

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/750,037	GROVER ET AL.	
	Examiner	Art Unit	
	Zhuo H. Li	2185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 2-7,9-12 and 14-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2-7,9-12 and 14-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

S C Elmo

STEPHEN C. ELMORE
PRIMARY EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office action has been modified in response to applicant's amendment filed 5/19/2006. Accordingly, claims 2, 8 and 13 are canceled and claims 1, 3-7, 9-12 and 14-17 are pending for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3-7, 9-12 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hetzler (US PAT. 5,682,273 hereinafter Hetlzer) in view of Ramakrishnan (US PAT. 5,636,355 hereinafter Ramakrishnan).

Regarding claim 1, Hetzler discloses a method comprising a system (40, figure 1) detecting an occurrence of a predetermined event, i.e., detecting reading or writing access to the disk drive, and spinning up a hard disk (34, figure 1) of the system in response to detecting the event (col. 1 lines 27-30). Hetlzer differs from the claimed invention in not specifically teaching that the predetermined event is a cache of the hard disk reaching a predetermined level of dirty, the predetermined level is to be reached before the cache of the hard disk is full of dirty data and spinning up the hard disk of the system prior request to exchange data with the hard disk in response to the detecting the event. However, Ramakrishnan teaches a method for reducing a number of disk accesses needed to satisfy requests for reading data from and writing data to a hard disk by checking a cache reaching a predetermined level of dirty data (col. 3 lines 27-32), the predetermined level of level is to be reached before the cache of the hard disk is full, i.e., a specific threshold is set at between approximately 90% and 95% of the capacity of the cache (col. 3 lines 33-40), and spinning up a hard disk of the system prior to a request to exchange data with the hard disk in response to detecting the event, i.e., setting a "purge request" indicating that the cache should be purged to the disk when a predetermined threshold is exceeded (col. 5 lines 30-58). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hetzler in having that the predetermined event is a cache of the hard disk reaching a predetermined level of dirty, the predetermined level is to be reached before the cache of the hard disk is full of dirty data and spinning up the hard disk of the system

prior request to exchange data with the hard disk in response to the detecting the event, as per teaching of Ramakrishnan, because it reduces the number of disk accesses needed to satisfy requests for reading data from and writing data to the hard disk.

Regarding claim 3, Ramakrishnan discloses the cache of the hard disk consisting of nonvolatile memory (col. 5 lines 12-14).

Regarding claims 4-6, Hetzler teaches an interface controller (13, figure 1) handling communication with the disk drive (40, figure 1, col. 4 lines 48-59) such that the predetermined event obviously including detecting a presence of a system user, one of movement and activation of one of an input device and a pointing device or movement of a mouse or activation of a key on a keyboard.

Regarding claim 7, the limitations of the claim are rejected as the same reasons set forth in claim 1.

Regarding claim 9, the limitations of the claim are rejected as the same reasons set forth in claim 3.

Regarding claims 10-11, the limitations of the claims are rejected as the same reasons set forth in claims 4-6.

Regarding claim 12, the limitations of the claim are rejected as the same reasons set forth in claim 1.

Regarding claim 14, the limitations of the claim are rejected as the same reasons set forth in claim 3.

Regarding claims 15-17, the limitations of the claims are rejected as the same reasons set forth in claims 4-6.

Response to Arguments

4. Applicant's arguments filed 5/19/2006 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation of combining Hetzler and Ramakrishnan is to reduce the number of disk accesses needed to satisfy requests for reading data from and writing data to the hard disk as taught by Ramakrishnan (col. 2 lines 54-57).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that the references fail to show a system detecting an occurrence of a cache of the hard disk reaching a predetermined level of dirty data, the

predetermined level is to be reached before the cache of the hard disk is full of dirty data and spinning up a hard disk of the system prior to a request to exchange data with the hard disk in response to detecting the event, it is noted that Ramakrishnan teaches a method for reducing a number of disk accesses needed to satisfy requests for reading data from and writing data to a hard disk by checking a cache reaching a predetermined level of dirty data (col. 3 lines 27-32), the predetermined level of level is to be reached before the cache of the hard disk is full, i.e., a specific threshold is set at between approximately 90% and 95% of the capacity of the cache (col. 3 lines 33-40), and spinning up a hard disk of the system prior to a request to exchange data with the hard disk in response to detecting the event, i.e., setting a "purge request" indicating that the cache should be purged to the disk when a predetermined threshold is exceeded (col. 5 lines 30-58). Thus, the combination of Hetzler and Ramakrishnan teaches the claimed limitations.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that Ramakrishanan operates fundamentally different from Hetzler, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zhuo H. Li whose telephone number is 571-272-4183. The examiner can normally be reached on Tues - Fri 9:00am - 6:30pm and alternate Monday..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Zhuo H. Li
Patent Examiner
Art Unit 2185

STEPHEN C. ELMORE
PRIMARY EXAMINER